

840.41268X00

AMENDMENTS TO THE CLAIMS:

Please delete the original specification in its entirety, and substitute therefor the attached Substitute Specification, enclosed herewith as an Appendix. Also included in the Appendix is a marked-up copy of the original specification.

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions, and all prior listings, of claims in the application.

Listing of Claims:

Claims 1.-28. (Cancelled)

29. (New) An exhaust gas processing apparatus having (1) a discharge generation means and (2) a catalyst downstream of the discharge generation means, wherein:

said discharge generation means comprises: an insulation body, one electrode covered by an outer skin of said insulation body, and another electrode formed with a bare wire, said another electrode being arranged adjacent to the insulation body, along the insulation body;

in processing of an exhaust gas including particle substances from a diesel engine, by use of the catalyst combined with the discharge generation means and in response to conditions of the exhaust gas, NO and NO₂ can be removed, and an amount and a component of nitrogen oxides of a generation necessary for processing said particle substances can be controlled,

whereby using said catalyst said particle substances can be removed under a low temperature of about 300°C.

30. (New) An exhaust gas processing apparatus according to claim 29, wherein said catalyst is selected from the group consisting of vanadium oxide, molybdenum oxide, alumina and zeolite.

31. (New) An exhaust gas processing apparatus according to claim 29, wherein said discharge generation means is in a first section of said exhaust gas processing apparatus and said catalyst is in a second section of the exhaust gas processing apparatus, said second section being downstream of the first section.

32. (New) An exhaust gas processing apparatus according to claim 29, further comprising a source of alternating current high voltage, connected to the one and another electrodes so as to apply an alternating current high voltage thereto.

33. (New) An exhaust gas processing apparatus according to claim 32, further comprising a controller that controls voltage output of the source of alternating current high voltage, said voltage output being applied to the one and another electrodes of the discharge generation means.

34. (New) An exhaust gas processing apparatus according to claim 33, further comprising a sensor located at an input to the exhaust gas processing apparatus, for sensing the particle substances and sending a sensed value to the controller.

35. (New) An exhaust gas processing apparatus according to claim 29, further comprising a gas supply conduit for supplying the exhaust gas including the particle substances from the diesel engine to the discharge generation means of the exhaust gas processing apparatus.

36. (New) An exhaust gas processing apparatus according to claim 29, wherein said another electrode is wound around the insulation body, having a spiral shape.

37 (New) An exhaust gas processing apparatus having (1) a discharge generation means and (2) a catalyst downstream of the discharge generation means, wherein:

said discharge generation means comprises: an insulation body, one electrode covered by an outer skin of said insulation body, and another electrode formed with a bare wire, said another electrode being arranged adjacent to the insulation body, along the insulation body;

in processing of an exhaust gas including particle substances from a diesel engine, by use of the catalyst combined with the discharge generation means and in response to conditions of the exhaust gas, NO and NO₂ can be removed, and an amount and a component of nitrogen oxides of a generation necessary for processing said particle substances can be controlled, and further wherein:

the exhaust gas processing apparatus comprises further an ammonia high pressure reaction means or a plasma synthesis means, and

a necessary amount of ammonia is generated,

whereby using said catalyst said particle substances can be removed under a low temperature of about 300°C.

38. (New) An exhaust gas processing apparatus according to claim 37, further comprising a source of alternating current high voltage, connected to the one and another electrodes so as to apply an alternating current high voltage thereto.

39. (New) An exhaust gas processing apparatus according to claim 38, further comprising a controller that controls voltage output of the source of alternating current high voltage, said voltage output being applied to the one and another electrodes of the discharge generation means.

840.41268X00

40. (New) An exhaust gas processing apparatus according to claim 39, further comprising a sensor located at an input to the exhaust gas processing apparatus, for sensing the particle substances and sending a sensed value to the controller.